PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Device for Grouping Objects Fed in a Continuous Succession

We, SCHWEIZERISCHE INDUSTRIE-GESELLSCHAFT, a Swiss Body Corporate, of 8212 Neuhausen am Rheinfall, Switzerland, do hereby declare the invention, for which
5 we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and · by the following statement: —

The present invention relates to devices
10 for grouping objects fed in continuous succession.

According to the present invention a device for grouping objects, fed in continuous succession, includes an inclined chute adapted to
15 receive and feed the objects, a stop element adapted to intermittently press one of the objects against the chute to stop the movement of said object and all objects therebehind, an endless chain movable around a path of
20 which at least a part is parallel to, coextensive with, and above part of the chute, and a conveyor track, said chain carrying at least one member movable into the path of the objects for controlling the feed movement of the
25 objects released by the stop element onto said convyor track.

The invention will be further described with reference to the accompanying drawings, in which Figs. 1 to 3 illustrate schematic-
30 ally side elevations of the device embodying the present invention in various operating positions.

Objects are fed in a continuous succession down an inclined chute 1 under the force
35 of gravity. Their movement is periodically interrupted by a stop element in the form of a presser 3 which under the control of an actuating means 12 presses one of the objects against the chute and thus arrests all the
40 objects therebehind. An endless chain 4 movable around a path of which a part extends parallel to the chute 1 is arranged above the chute 1. The chain 4 can be continuously rotated in the direction of the arrow 5 by a

drive means 13. Groups, each comprising a
45 member 6 and a drive 7 are secured to the chain 4 and, during their movement along the part extending parallel to the conveyor track 1, are located in the path of the objects 2.
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A conveyor track 8 is arranged beneath the end of the chute 1. The conveyor track 8 may have drivers 10 which can be arranged at equal distances apart on a rotating chain 9, for example, and driven in the direction of the
55 arrow 11 by a drive means 14.

The actuating means 12 for the presser 3, the drive means 13 for the chain 4 and the drive means 14 for the drivers 10 are in driven timed relationship with each other,
60 their movements thus being coordinated by a synchronising means 15.

In operation the presser 3 is raised as soon as a member 6 of the chain 4 has moved into a position in which it is located in the
65 path of the objects 2. Thus, the objects are released and slide down the chute 1 until the foremost object abuts against the member 6 which controls their feed movement onto the conveyor track 8. The objects 2 now move
70 along at the peripheral speed of the chain 4. This phase is illustrated in Fig. 2. As soon as a predetermined number of objects (four, for example, as illustrated in the drawing) has passed under the presser, the latter is lowered
75 again, so that it arrests the fifth object 2' (See Fig. 3) and thus all the objects therebehind. However, the four objects located in front of the clamped object 2' continue their movement and slide onto the conveyor
80 track 8. Since the latter is stationary, a portion of the objects of this group still on the chute 1 would come to rest. One of the drivers 7 of the chain 4 now pushes these objects fully on to the track 8. Here, the
85 separate groups of objects are taken over by a driver 10 and conveyed further. The distances between the member 6 and drivers

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7 and between adjoining drivers 10, are adapted to the number of objects to be separated at any given time.

It will be appreciated that the above described embodiment groups the objects into uniformly spaced apart groups which each comprise the same number of objects.

WHAT WE CLAIM IS:—

1. A device for grouping objects, fed in a continuous succession, into groups comprising an inclined chute adapted to receive and feed the objects, a stop element adapted to intermittently press one of the objects against the chute to stop the movement of said object and all objects therebehind, an endless chain movable around a path of which at least a part is parallel to, coextensive with, and above part of the chute, and a conveyor track, said chain carrying at least one member moveable into the path of the objects for controlling the feed movement of the objects released by the stop element onto said conveyor track.

2. A device as claimed in claim 1 in which drivers movable along the line of the conveyor track are adapted to engage the groups of objects when on the conveyor track.

3. A device as claimed in claim 1 or claim 2 in which said chain has, associated with the, or each said member, a driver adapted to transfer objects on the chute to said conveyor track after they have been released by the respective member.

4. A device as claimed in any preceding claim, constructed and arranged and adapted to be operated as hereinbefore particularly described with reference to and as illustrated in the accompanying drawings.

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Fig.1

Fig.2

Fig.3